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SEVERIN, S.Ye.; MARDAHSEV, S.R.; BUCHKOV, S.M.; DEBOV, S.S.

International Congress on Clinical Chemistry. Vop.med.khim. 3 no.5:
397-400 S-O '57. (MIRA 10:12)
(CHEMISTRY, MEDICAL AND PHARMACEUTICAL)

BELEBETS, I.A.; EUCHEKOVSKAYA, M.I.

Thermometric investigations of intake wells in the Polina
area. Nefteprom. delo no.8412-35 '65. (MIRA 18:9)

1. Isslezhovanie mashino-deledovatel'skikh i proizvodstvennykh metod
neftepromyslovogo upravleniya "Dobynanefte".

BUCHKOVSKIY, E.S.

Geology of Bayguskarovo ultrabasic massif in connection
with its ore potential. Mat. po geol. i pol. iskop. Uzb.
Urals no. 3:148-158 '62. (MIR: 17:7)

BUCHKOVSKIY, E.S.

Basic characteristics of sulfide ores in ultrabasic massifs of
the eastern slope of the Southern Urals. Mat. po geol. i pol.
iskop. IUzh. Urala no.2:94-105 '60. (MIRA 14:3)
(Ural Mountains--Sulfides)

MAKUNINA, A. A.; SOROKINA, Ye. P.; BUCHKOVSKIY, E. S.

Secondary halos of dispersion in the copper-cobalt deposits
of the Southern Urals. Vop. geog. no.59:53-81 '62.
(MIRA 16:1)

(Ural Mountains—Ore deposits)

(Ural Mountains—Geochemical prospecting)

BUCHKOVSKIY, Z., Cand Chem Sci -- (diss) "Research into the structure of binary diazo salts by spectroscopic methods." Moscow, 1960. 10 pp; (Moscow State Univ im M. V. Lomonosov, Chemistry Faculty, Chair of Organic Chemistry); number of copies not given; price not given; (KL, 22-60, 131)

KAZITSYNA, L.A.; REUTOV, O.A.; BUCHKOVSKIY, Z.F.

Structure of double diazonium salts. Izv.AN SSSR Otd.khim.nauk
no.8:1523 Ag '60. (MIRA 15:5)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Diazonium compounds)

5.3700

78300

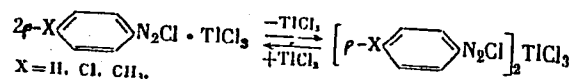
SOV/79-30-3-54/69

AUTHORS: Kazitsyna, L. A., Reutov, O. A., Buchkovskiy, Z. F.

TITLE: Double Diazonium Salts of Thallium

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 3,
pp 1008-1012 (USSR)

ABSTRACT: A series of double salts of diazonium thallium chlorides, $(ArN_2Cl)_2TlCl_3$, were prepared and their absorption spectra taken. It was found that under certain conditions interconversion of 1:1 and 2:1 double salts takes place:



$(p-BrC_6H_4N_2Cl)_2TlCl_3$, colorless crystals, mp 86° and
 $(p-NO_2C_6H_4N_2Cl)_2TlCl_3$, yellow crystals, mp 58° were
 obtained by addition of an alcoholic solution of the

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Double Diazonium Salts of Thallium

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corresponding double salts to cold absolute ether.

$(C_6H_5N_2Cl)_2TlCl_3$, colorless fine crystals, mp 86° ,

$(p-CH_3C_6H_5N_2Cl)_2TlCl_3$, colorless crystals, mp 103°

and $(p-ClC_6H_5N_2Cl)_2TlCl_3$, colorless crystals, mp 117°

were obtained by adding solutions of the corresponding 1:1 diazonium salts in absolute alcohol to cold ether.

Absorption spectra of the compounds prepared are given in Table 1. There are 1 Table; and 4 references, 2 German, and 2 Soviet.

ASSOCIATION: Moscow State University (Moskovskiy gosudarstvennyy universitet)

SUBMITTED: April 29, 1959

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Double Diazonium Salts of Thallium

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SOV/79-30-3-54/69

Table 1. Frequency Maxima of $N \equiv N$ Bond (in cm^{-1}) for Solid Samples.

(a)	(b)	(c)	(d)	(e)
	1:1		2:1	
$\text{H} \text{---} \text{C}_6\text{H}_4 \text{---} \text{N}_2\text{Cl} \cdot \text{TlCl}_3$	2246 (2257)	2294	2261	$[\text{H} \text{---} \text{C}_6\text{H}_4 \text{---} \text{N}_2\text{Cl}]_2 \text{TlCl}_3$
$\text{CH}_3 \text{---} \text{C}_6\text{H}_4 \text{---} \text{N}_2\text{Cl} \cdot \text{TlCl}_3$	2233 (2247)	2281	2253	$[\text{CH}_3 \text{---} \text{C}_6\text{H}_4 \text{---} \text{N}_2\text{Cl}]_2 \text{TlCl}_3$
$\text{Cl} \text{---} \text{C}_6\text{H}_4 \text{---} \text{N}_2\text{Cl} \cdot \text{TlCl}_3$	2253	2277	2267	$[\text{Cl} \text{---} \text{C}_6\text{H}_4 \text{---} \text{N}_2\text{Cl}]_2 \text{TlCl}_3$
$\text{Br} \text{---} \text{C}_6\text{H}_4 \text{---} \text{N}_2\text{Cl} \cdot \text{TlCl}_3$	2233 (2260)	2267	2246	$[\text{Br} \text{---} \text{C}_6\text{H}_4 \text{---} \text{N}_2\text{Cl}]_2 \text{TlCl}_3$
$\text{NO}_2 \text{---} \text{C}_6\text{H}_4 \text{---} \text{N}_2\text{Cl} \cdot \text{TlCl}_3$	2273 (2260)	2303	2292	$[\text{NO}_2 \text{---} \text{C}_6\text{H}_4 \text{---} \text{N}_2\text{Cl}]_2 \text{TlCl}_3$
$\text{C}_2\text{H}_5\text{OOC} \text{---} \text{C}_6\text{H}_4 \text{---} \text{N}_2\text{Cl} \cdot \text{TlCl}_3$	2268	2295	—	—

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Key for Table 1: (a) Compounds, (b) maxima, (c) diazonium chloride.

5.3610
5.4130

80228
S/076/60/034/04/25/042
B010/B009

AUTHORS: Kazitsyna, L. A., Reutov, O. A., Buchkovskiy, Z. F. (Moscow)
TITLE: Infrared Absorption Spectra of Double Diazonium Salts
PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 4, pp. 850 - 855

TEXT: In continuation of an earlier paper (Ref. 1) the infrared absorption spectra over the range $2100-2350\text{ cm}^{-1}$ (range of valency oscillations of the $\text{N}\equiv\text{N}$ bond) of thirty double diazonium salts of the composition $\text{p-XC}_6\text{H}_4\text{N}_2\text{Cl}\cdot\text{MeCl}_n$ (X = H, CH_3 , Cl, CH_3O , NO_2 , $\text{C}_2\text{H}_5\text{OOC}$ and Me = Fe^{3+} , Cd^{2+} , Hg^{2+} , Sb^{3+} , Zn^{2+}) as well as of the corresponding aryldiazonium chlorides and aryldiazoniumborofluorides were recorded. The data obtained (Table 1) show that the location of the absorption bands of the $\text{N}\equiv\text{N}$ bond, practically speaking, depends as much on the substituent in the aromatic ring as on the inorganic part of the molecules. A direct connection between the shift of the absorption bands and the structure of the bond has not been established. Several double diazonium salts with metal chlorides show two distinct bands, others show more or less clearly discernible

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Infrared Absorption Spectra of Double Diazonium Salts

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B010/B009

asymmetrical absorption bands, and only a few of them show a symmetric peak (characteristic of the $N \equiv N$ bond). All borofluorides of the aryldiazonium salts under investigation show, on the other hand, only one symmetrical absorption peak (in the range $2300-2284 \text{ cm}^{-1}$, with the only exception of p-methoxyphenyldiazonium-borofluoride, where the peak is at 2246 cm^{-1}). The results concerning the absorption of solutions (Table 2) of fifteen of the compounds under investigation show that there is only one intensive symmetric band to be observed. The absorption maximum is in the vicinity of the absorption maximum of the $N \equiv N$ bond of aryldiazonium chlorides and borofluorides. The spectra were recorded with an IKS-11 spectrophotometer. K. A. Kocheshkov and A. N. Nesmeyanov are mentioned in the paper. There are 2 figures, 2 tables, and 10 references, 4 of which are Soviet.

SUBMITTED: July 8, 1958

Card 2/2

KAZITSYNA, L.A.; REUTOV, O.A.; BUCHKOVSKIY, Z.F.

Infrared absorption spectra of double diazonium salts of bismuth
and antimony chlorides. Zhur.ob.khim. 31 no.6:2065-2069 Je '61.
(MIRA 14:6)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Diazonium compounds—Spectra)

KAZITSYNA, L.A.; REUTOV, O.A.; BUCHKOVSKIY, Z.F.

Double diazonium salts of bivalent cobalt and copper chlorides.
Zhur.ob.khim. 31 no.9:2943-2950 S '61. (MIRA 14:9)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
(Diazonium compounds) (Cobalt chloride) (Copper chloride)

BUCHLER, K.

A device for double-contrast irrigoscopy without assistance.
Cesk. radiol. 19 no.6:419-421 N '65.

1. Rontgenologicke oddelenie Vojenskej nemocnice v Bratislave
(veduci MUDr. K. Bichler).

82835

S/048/60/024/008/012/017
B012/B067

24.6100

AUTHORS: Kushnir, R. M., Buchma, I. M.

TITLE: Further Investigations Into Resonance Charge Exchange of
Positive Cesium Ions 21

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960,
Vol. 24, No. 8, pp. 986-988

TEXT: This paper presents the further investigations of resonance charge exchange of cesium ions (Ref. 1) in the direction of higher energies of from 100 to 2000 ev. The measurements were made by the method of extraction of slow ions (which have formed in the charge exchange) by an additional cylindrical electrode. Fig. 1 shows the measuring instrument which is described as well as the experiments. The cross section of the charge exchange was determined proceeding from the exponential formula for the weakening of the beam. This formula describes the linear relation between $\log I_0/I$ and p_0 . The curves for this function are drawn according to the results of measurements. Here, the values of

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Further Investigations Into Resonance Charge
Exchange of Positive Cesium Ions

S/048/60/024/008/012/017
B012/B067

the cross sections of charge exchange are given. Fig. 3 shows the dependence of these values on the ion velocity (curve 1). This shows that in the region of small ion energies this curve gradually passes into the curve obtained in the paper (Ref. 1). For the purpose of comparison, the same Fig. also shows the theoretical curves drawn according to calculations by O. B. Firsov (Ref. 4) (curve 2), Yu. N. Demkov (Ref. 5) (curve 3), and L. A. Sena (Ref. 6). The theoretical curve by O. B. Firsov gives the best representation of the course of the experimental curve. L. A. Sena advised the author. There are 3 figures and 6 Soviet references.

ASSOCIATION: L'vovskiy gosudarstvennyy universitet im. Iv. Franko
(L'vov State University im. Iv. Franko)

Card 2/2

23984
R/007/61/012/002/002/003
D226/D304

3.9300

AUTHORS: Ionescu, G. and Buchman, S., Engineers

TITLE: On the generation of elastic waves in seismic prospecting

PERIODICAL: Petrol și gaze, vol. 12, no. 2, 1961, 69-73

TEXT: The article deals with the generation of elastic waves used in seismic prospecting by both the method of reflected and that of refracted waves (KMPV). The authors first discuss the intensity of the generated seismic impulse and some results obtained by their experiments. On the basis of their theoretical considerations, the authors ascertained that only soft rocks with a low acoustic resistivity generate a wide spectrum with a tendency toward the lower frequencies, whereas hard rocks generate especially high frequencies. The authors' conclusions could also be applied to the generation of waves by shootings, since they lead to considerable savings in the consumption of explosives by increasing the generating surface, the shootings being carried out in holes of low depth, approximately

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D226/D304

On the generation of elastic waves...

5 - 10 m. For calculations, the pressure distribution P in the medium located around the shooting point should be known. For this purpose the authors used the formula of G.I. Pokrovskiy (Ref. 2: Calculul încărcăturilor de explozivi pentru aruncare. Acțiunea exploziei în pământ și calculul încărcăturilor (The Calculations of Explosive Charges for Blastings. The Action of Explosives in the Earth and the Calculation of the Charges), I. D. T., Bucharest, 1957):

$$P = 19^3 \frac{7,200 V_s}{R^3} R_0^3 \quad (9)$$

in which

$$R_0 = 0.053 \sqrt[3]{C} \quad (10)$$

R_0 being the radius of the explosive charge in m, R - the distance in m from the shooting point to the point where the pressure is determined, V_s - the speed of sound in the medium in m/sec, P - the pressure at a point of the medium in kg/m^2 , and C - the weight of the explosive. Conclusions: Small charges distributed at a great number of shallow holes leads to a considerable reduction in explosives consumption. The surface to be excited has to fulfill the

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On the generation of elastic waves...

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D226/D304

following conditions: Its maximum dimension should be comparable with the length of the used wave; the geometrical distribution of the generating points on this surface should be uniform, whereas the impulses supplied by every point should be as identical as possible; the radius of action of the impulse of every generating point should not overlap with that of the neighboring point; the dimensions of the generating surface and the number of necessary points must be established by experiments. It is also planned to generate elastic oscillations by powerful mechanics shocks, so as to be able to record these shocks by the seismic devices of the IPGG. There are 7 figures, 1 table and 2 Soviet-bloc references.

SUBMITTED: October 4, 1960

Card 3/3

BUCHMAN, S., ing.

Possibilities of the interferential method in seismic prospecting.
Petrol si gaze 13 no.10:431-440 0 '62.

BUCHMANN, O.

"The gilly flower, our best known medicinal herb." p.315.
(TERMEZET ES TECHNIKA, Vol. 112, no. 5, May, 1953. Budapest.)

SO: Monthly List of East European Accessions, Vol. 2, #8, Library of
Congress. Aug. 1953, Uncl.

POKORNY, J.; PRIVORA, M.; BUCHNA, J.

Results with disinfecting mixture of chlorine with syntapons
and neokal. Cesk. epidem. mikrob. imun. 5 no.2:83-86 Apr 56.

1. Z Ustavu epidemiologie a mikrobiologie, Praha, red. prof.
MUDr. K. Raska.

(ANTISEPTICS, HALOGEN,

chlorinated alchol sulfonates (Cz))

(DETERGENTS,

alcohol sulfonates, antiseptic properties of
chlorinated prep. (Cz))

~~BUCHNER, S.~~

BUCHNER, S.

Resin preparations as purgatives in Poland. Acta poloniae pharm. 8 no.4:
254-278 1951.
(CIML 21:5)

1. Of the Institute of Pharmacognosy (Head--Prof. J. Deryng, M.D.) and
of the Institute of Experimental Pharmacology (Head--Prof. P. Kubikow-
ski, M.D.), both of Warsaw Medical Academy.

BUCHNER, S.

Cardiac glycosides. Acta Poloniae pharm. 9 no. 4:241-256 1952. (CIML 24:1)

1. Of the Institute of Pharmacognosy (Head--Prof. J. Deryng, M.D.)
of Warsaw Medical Academy.

Chemical methods of investigating plant cardiac drugs.
Stanislaw Buchner (Acad. Med., Warsaw). *Acta Polon.
Pharm.* 10: 95-104(1953)(English summary).--A crit.
review with 40 references. A. Serejsky.

Inst. Pharmacognosy (Hd. Prof.
J. Derzyng, M.D.), Warsaw
Med. Acad.

BUECHNER, Stanislaw -0-

Above, of the Institute of Pharmacognosy at the Medical Academy in Warsaw wrote article in source entitled: "Studies on Pharmacological Activities of the Pheasant's eye Herb (*adonis vernalis*).

SO: Farmacja Polska (Polish Pharmacy), No. 23-24, 31 Dec 60. Uncl.

PAVLIKOV, G.V., inzh.; BUCHNEV, A.I., tekhnik; VANYUKOV, V.K., slesar'

Use of the BF2 adhesive in repairing friction clutches. Elek, 1
tepl. tiaga 6 no. 5:15 My '62. (MIRA 15:6)
(Diesel locomotives—Maintenance and repair)
(Adhesives)

BUCHNEV, B.P.

Checking of single and daily doses of toxic and powerful substances
in liquid drugs. Apt. delo 13 no.2:63-66 Mr-Ap '64.

(MIRA 17:12)

1. Pyatigorskiy farmatsevticheskiy institut.

BUCHNEV, B.P.

Device for filling hard gelatin capsules. Apt. delo 13 no.4:
80-81 J1-Ag '64. (MIRA 18:3)

1. Pyatigorskiy farmatsevticheskiy institut.

BUCHNEV, B.P.

Machine used in packing dragées and coated tablets.
Apt. delo 14 no.5:79-80 S-O '65.

(MIRA 18:11)

1. Pyatigorskiy farmatsevticheskiy institut.

BUCHNEV, K. N.

Some facts about Urovsk disease of the farm animals. Veterinariia 29, no. 5, 1952.

SO: MLRA, August 1952.

USSR/Medicine - Veterinary

FD-468

Card 1/1 : Pub 137 - 9/24

Author : Buchnev, K. N., Dr Vet Sci, Nikolayeva, V. V., Scientific Associate,
and Bazilevich, Yu. A., Scientific Associate

Title : Hyperimmune antibrucellosis serum

Periodical : Veterinariya, 7, 30-31, Jul 54

Abstract : Experiments conducted since 1948 on mice, guinea pigs, rabbits, and cattle resulted in the development of hyperimmune antibrucellosis serum which speeds up recovery of cattle infected with brucellosis. This serum may be used as prophylaxis against abortion, metritis, and endometritis. It seems possible that this serum may be also used successfully against brucellosis in sheep, goats, and hogs. The Main Administration of Animal Husbandry and Veterinary Medicine of the Ministry of Agriculture of the USSR has issued a decree ordering manufacture of this antibrucellosis serum. The decree contains also instructions as to methods of administration of this serum. Two injections should be given subcutaneously 5 days apart. Single dose should consist of 5cc of antibrucellosis serum per kg of weight of the animal.

Institution : Far Eastern Zonal Scientific-Research Veterinary Institute

Submitted :

BUCHNEV, K.N., doktor vet. nauk, prof.; NIKOLAYEVA, V.V., nauchnyy rabotnik

Specific serum therapy for animals with clinical symptoms of rabies[with summary in English]. Veterinariia 35 no. 7:31-37 J1 '58.

1. Zaveduyushchiy laboratoriyey Dal'nevostochnogo nauchno-issledovatel'skogo veterinarnogo instituta(for Buchnev). 2. Dal'nevostochnyy nauchno-issledovatel'skiy veterinarnyy institut(for Nikolayeva).
(Rabies)

BUCHNEV, Kirill Nikolayevich; RED'KO, Andrey Semenovich;
BUKREYEV, Nikolay Vasil'yevich; NAZARENKO, L., red.;
NAGIBIN, P., tekhn. red.

[Rabies of farm animals and its control] Beshenstvo
sel'skokhoziaistvennykh zhiivotnykh i mery bor'by s nim.
Alma-Ata, Kazsel'khozgiz, 1962. 49 p. (MIRA 17:2)

BUCHNEV, K.N., prof.; LOPATNIKOV, G.I., kand.veterin.nauk; OMAROV, K.S., kand.
veterin.nauk; GLEBOVA, V.N., kand.veterin.nauk; UVALIYEV, I.U., kand.
veterin.nauk; SANDILOV, N.G., assistant

Infectious pustular dermatitis in sheep. Veterinariia 40 no.9:27-28
S '63. (MIRA 17:1)

1. Alma-Atinskiy zsovetinariyny institut.

BUCHNEV, K.N., prof.; SHAKHMATOV, M.M., kand. veterinarnykh nauk;
TITOV, V.L., nauchnyy sotrudnik; MEN'SHIKOV, L.F., nauchnyy
sotrudnik; KRIVENKO, O.P., vrach-laborant; VOVK, V.I., vrach-
laborant; LAISHEVA, M.M., vrach-laborant; POLUBOYAROVA,
G.V., vrach-laborant

Diagnosis of rabies by precipitation reaction in agar gel.
Veterinariia 40 no.3:66-70 Mr '63. (MIRA 17:1)

1. Alma-Atinskiy zooveterinarnyy institut (for Buchnev).
2. Laboratoriya virusologii nauchno-issledovatel'skogo
veterinarnogo instituta Kazakhskoy akademii sel'skokhozyayst-
vennykh nauk (for all except Buchnev).

BUCHNEV, K.N., prof.; UVALIYEV, I., starshiy prepodavatel'; OMAROV, K.S., dotsent; GLEBOVA, V.N., dotsent; LOPATNIKOV, G.I., assistant; SAMOYLOV, N.G., assistant

Besnoitiosis of cattle in the Lake Balkhash region. Veterinariia
41 no.5:59-63 My '64. (MIRA 18:3)

1. Alma-Atinskiy zooveterinarnyy institut.

SHCHERBAKOV, N.K.; BUCHNEV, V.F.

Manufacture and use of multipurpose attachments with interchangeable parts in enterprises of the Voronezh Economic Council. Mashino-stroitel' no.5:42-43 My '62. (MIRA 15:5)
(Voronezh Province—Interchangeable mechanisms)

HUCHNEV, V. K.

(DECEASED)

1963/2

c' 1962

MINING ENGINEERING

see ILC

BUCHNEVA, N.V.

OZERETSKOVSKAYA, N.N.: ~~BUCHNEVA, N.V.~~ ANDREYEVA, L.G.

Experience in treating tertian malaria with a prolonged incubation period with new Soviet preparations in Altai Territory. Sovet.med. 19 no.5:36-43 My '55. (MLRA 8:8)

1. Iz klinicheskogo sektora (zav.-prof. N.W.Plitnikov) Instituta malyarii, meditsinskoy parazitologii i gel'mintologii Ministerstva zdavookhraneniia SSSR (dir.-deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR prof. P.G. Sergiyev)

(ANTIMALARIALS
new, in Russia)

CA

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The influence of hydrogen ion and salt concentration in the nutrient solution on the growth of maize roots. Jan. Bucháček (Institute of plant physiology, Brno). *Publ. Facult. sci. univ. Masaryk (Czechoslovakia)* No. 200, 3-47 (1946)(in Czech).—The influence of varying pH and salt concentration on the growth of corn roots was measured by a specially constructed app. The optimum growth appeared at two different pH ranges (4.0-5.0 and 8.0). It was concluded that by changing the pH from the isoelec. point to the more acidic side (pH 4.0) the bound auxin was released and elongation of the cell wall followed. A similar

phenomenon may occur on the alk. side (pH 8.0). The elongation may depend on the colloidal changes of the protoplasm in which two hormones participate.

Oldrich Sebek

CA

Colchicine in the course of the development of meadow saffron in the spring. Jan. Muchnik (Palacky Univ., Brno, Czech.). *Časopis Československé Lidové Vědy*, 63, 83-8 (1950); cf. C.A. 45, 4884a. — During the spring vegetative period of May and June, 1949, old bulbs of *Colchicum autumnale* decreased in both fresh and dry wt., whereas the leaves, fruits, and young bulbs increased. The leaves of fruit-bearing plants had greater fresh wt. and dry wt. than those of sterile plants. Variations of the colchicine (I) content in different parts of the plant at various stages of growth followed well-defined patterns. In early June an appreciable amt. of I was found in old bulbs, which is explained by the break-down of proteins. On the basis of dry wt., old bulbs began in early May with 0.37% of I, reached a high of 1.08% on June 6, and decreased to 0.29% in late June; new bulbs contained 0.29%, 0.17%, and 0.30% for these test dates; leaves contained 0.66%, 0.46%, and 0.39%; and seeds 0.85%, 0.54%, and 0.56%, with a peak of 1.30% on May 19.

James L. Jeal

CA

Substances of colchicum autumnale and their deriva.
 XV. Colchicine in mature seeds of meadow saffron.
 J. Buncelík (Palacky Univ., Olomouc, Czech.). Pharm.
 Acta Slov. 23, 289-401(1950); cf. C.A. 43, 21324c.
 Seeds ripening during the period of May 19 to July 7,
 1948 were examined. The fresh wt. increases gradually from
 2.4-30.0% of the fresh wt. of the fruits; the dry wt. rises
 more rapidly, 16.3-44.5% in the whole seeds dried at 55°
 and 13.5-37.3% in the ground seeds dried at 110° based
 upon the fresh wt. of the seeds; ash content varies from 0.39
 to 1.42% of the fresh wt. of the seeds; colchicine increases
 from 0.34-0.88% of the fresh wt. of the seeds; the quantity
 of fatty substances rises about 7-fold during the ripening
 of the seeds; the data concerning the quantities of single
 substances in per cent of dry wt. indicates the occurrence
 of ripening. It is found necessary to express the values
 found in per cent of fresh wt. with a simultaneous estimate of
 the H₂O-content; the stage of maturity influences the col-
 chicine content in the ripe seeds; the course of accumula-
 tion of colchicine supports the view that colchicine is a by-
 product of metabolism. 24 references. H. M. Burlage.

Toxicity of colchicine studied in Lebistes reticulatus.
 Jan Buchnik and Milan Hejtmánek (Palacký Univ., Olomouc). *Acta Zool.* 31, 122-30 (1951).—The effect of colchicine on the fish (*Lebistes reticulatus*) was studied in the range 10^{-4} – 10^{-3} g./l. The upper lethal limit for the adults was $9.3\text{--}9.7 \times 10^{-4}$ g./l. The toxicity increased with increased concn. and temp. and manifested itself by an increased skin coloration due to dilatation of the pigment-contg. chromatophores; by disturbances in digestion (diarrhea and vomiting); by apathy, languor, decreased mobility, muscular convulsions, and strenuous breathing; by ascending paralysis of the central nervous system and progressive respiratory and vasomotor paralysis which resulted in death. Swelling and peeling of the mucous membrane in the mouth, hemorrhages, brittling of the scale, epidermal lesions, and disturbance in embryonic evolution were occasionally observed.
 Oldřich Šebek

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Batany 110

Calculation during the development of modern culture
J. Buchnidek (Palacký Univ., Olomouc). *Shornik Mezinsk-
rad. Priruč. Nizn. Prase, 1st. Congr. 1951, Pt. 1, Proc.*
715 (in Russian), 747-9 (in German).—See C.A. 46,
3783.
Otto H. Muller

BUCHNICEK, J.

24(2,4) PHASE I BOOK EXPLOITATION CZECH/2433

International Polarographic Congress. 1st, Prague, 1951

Sborník I. Mezinárodního polarografického sjezdu. Díl 3: Hlavní referáty přednesené na sjezdu. Prospěch 1952...Vol 3: Reviews Read at the Congress. Praha, Přírodovědecké vyd-vi [1952] 774 p. 2,000 copies printed.

Resp. Ed. J. V. Koryta, Doctor; Chief Ed. of Publishing House: Milan Švalník, Doctor; Tech. Ed.: Oldřich Dunka.

PURPOSE: The book is intended for chemists, chemical engineers, and physicists.

COVERAGE: The book is a collection of reviews and original papers read at the International Polarographic Congress held in Prague in 1951. Uses of polarography in organic chemistry, inorganic chemistry, medicine, and industrial chemistry are discussed. The section, Reviews Read at the Congress, contains original papers presented. In the section, Original Papers Read at the Congress, only those translations in Russian, German, and English which have not been published in Volume I are presented. The following scientists participated in the opening of the Congress: Professor Witor Kemula, Dean of the Faculty of Sciences, Warsaw; Doctor Jaroslav Polansky, Minister of Planning; and Professor Jaroslav Herovský, Chairman of the Congress. The Scientific Research and Technical Development. References follow each paper.

Kalvoda, R., and J. Zyska. Polarographic Determination of Derivatives of Barbituric Acid With the Aid of Mercuric Salts	550
Blazek, A. Polarographic Determination of Some Unsaturated Organic Compounds [Russian Translation] [English Translation]	555 561 563
Pleticha, B. Determination of Diacetyl [Russian Translation] [German Translation]	566 569 572
Buchnick, J. Content of Colchicine in the Development of the Yellow Saffron	576
Sandhu, B. Use of Polarographs in the Paper and Cellulose Industries	579
Zuman, P. Polarographic Determination of Sulfhydryl Substances in Fruit	582
Card 9/14	

BUCHNICK, Jan RNDr

Idealism in biology. Cas.lek.cesk. 91 no.16:470-473 18 Apr 52.

1. Z biologického ustavu lekarske fakulty Palackeho university v
Olomouci.

(BIOLOGY,
idealistic approach)

BUCHOLC, A.

(9)

- Warsaw, Przebieg Przebieg, Vol 33, No 9, September 1961
1. "Land Registry and its Importance for the National Economy,"
Mgr. Jan Michal SZYMANSKI, pp 321-325.
 2. "Problems of the New Land Registry," Mgr. Jan Jozef EYKOWSKI,
pp 325-329.
 3. "Technical Problems in Establishing and Working Out Land
Registry," Mgr. Jan Adam SZCZEPAN, pp 330-332.
 4. "An Air Survey with Greater Forward Control System of Forward
Vision Survey," Mgr. Jan C. Lipert and Mgr. Jan A. Bucholc, pp
332-335.
 5. "Technical Underground Installations, Part II," Mgr. Jan Zbigniew
Kuczyński, pp 335-340.
 6. "The Use of Old Geodetical Data on the Territory of the Cielistka
Coal Basin," Mgr. Jan Witold KUCZAK and Mgr. Jan Leon Aleksan-
drowski, pp 340-341.
 7. "Estimating the Quality of Geodetic Work," Mgr. Jan Bronisław
Lipinski, pp 341-343.

BUCHOLC, Ignacy, inz.

Remarks on delimitation of real estate. Przegl geod 36
no. 4:139-140 Ap '64.

BUCHOLC,, Ignacy, inz.

Studies. Przegl. geod. 36 no.2: 70-71 F'64

BUCHOLC, Ignacy, inz.

"The great tax and agricultural reform under Emperor Josef II; a chapter on economic history of Austria" by Roman Rozdolski. Reviewed by Ignacy Bucholc. Przegl geod 34 no.4:170 Ap '62.

BUCHOLC, Ignacy, ins.

Female geodesists and their usefulness. Przewgl geod 34 no.10:434
0 '62.

OSZTROVSZKY, Gyorgy; Schiller, Janos; PALFI, Laszlo, okleveles villamosmernok; BOZSIK, Ferenc; GYORI, Attila, okleveles villamosmernok, foenergetikus; VARGA, Endre, okleveles gepeszmernok; TURAN, Gyorgy, okleveles gepeszmernok; SZENDY, Karoly, dr., fokonstruktor; KOVACS, Ferenc, okleveles villamosmernok; CSILY, Jenő, fodispecser; BEREZNAY, Frigyes, fomernok; PALOS, Ferenc, okleveles mernok; FILARSZKY, Zoltan, okleveles gepeszmernok; NEMETH, Imre, okleveles villamosmernok, fomernok; ALPAR, Imre, okleveles gepeszmernok, foenergetikus; GATI, Geza, okleveles villamosmernok; BEKE, Gyula, okleveles gepeszmernok; VISNYOV-SZKY, Endre, foeloado; VERKITS, Gyorgy, okleveles villamosmernok, fomernok; FUTO, Istvan, oklevels gepeszmernok; NAGY, Karoly; PIKLER, Ferenc; SZEPESSY, Sandor, okleveles gepeszmernok; NADAY, Zoltan, okleveles gepeszmernok, fotechnologus; BUCHHOLCZ, Janos, okleveles gepeszmernok, fomernok

An account of the 11th itinerant meeting of the Hungarian Electrotechnical Association held in Pecs, July 18-20, 1963. Energia es atom 16 no.12:559 D '63.

(Continued on next card)

BUCHOVSKAYA
POLAND / Microbiology. Sanitary Microbiology.

F-2

Abs Jour : Ref Zhur - Biol., No 2, 1958, No 5210

Author : Buchovskaya

Inst : Not given

Title : Coli-Index and Bacteriological Sanitary Norms in Testing
Water.

Orig Pub : Roczn. Panstw. zakl. hig., 1957, 8, No 3, 289-296

Abstract : No abstract.

Card : 1/1

Buchowicz, J.

Micro-determination of tropine alkaloids in plant material. 1.
Reiter and J. Buchowicz (*Acta Biochim. Polon.*, 1955, 2, 187-198).—
The *p*-dimethylaminobenzaldehyde method is modified by use of
60% H_2SO_4 in place of glacial acetic acid and by dissolving the
reagent in ethanol instead of H_2SO_4 . Determinations of tropine
alkaloids in the range 1-80 μg in plant material or pharmaceutical
prep. may be completed in 45 min.
A. G. POLLARD.

BUCHOWICZ, Jerzy

Biosynthesis of pyrimidine nucleotides. Postepy biochem 6 no.3:
301-321 '60.

(NUCLEOSIDES AND NUCLEOTIDES metab)

REIFER, I.; BUCHOWICZ, J.; TOCZKO, K.

The synthesis of the pyrimidine ring from L-Carbamylaspartic acid in excised blades of wheat seedlings. Acta biochim.polon. 7 no.1: 29-38 '60.

1. Zaklad Biochemii Roslin, Instytut Biochemii i Biofizyki PAN, Warszawa.

(PYRIMIDINES metab.)
(ASPARTIC ACID rel.cpd.s.)
(WHEAT)

BUCHOWICZ J; REIFER, I.

The conversion of orotic acid to pyrimidine derivatives in plant material. *Acta biochim.polon.* 8 no.1:25-34 '61.

1. Zaklad Biochemii Roslin, Instytut Biochemii i Biofizyki PAN, Warszawa Department of Plant Biochemistry, Institute of Biochemistry and Biophysics, Polish Academy of Sciences, Warsaw.

(OROTIC ACID metab) (PYRIMIDINES metab)
(PLANTS metab)

BUCHOWICZ, J.; REIFER, I.; MAKOWSKI, J.

Metabolism of ^{14}C -L-carbamylaspartic acid to pyrimidine derivatives
in excised wheat blades. Acta biochim 8 no.3:377-385 '61.

1. Institute of Biochemistry & Biophysics, Polish Academy of Sciences
and Department of Biochemistry, Central College of Agriculture, Warsaw.

(METABOLISM)

BUCHOWICZ, Jerzy

Heterogeneity of nucleic acids. Postępy biochem. 8 no.2:195-216 '62.

(NUCLEIC ACIDS)

BUCHOWICZ, J.; REIFER, I.

The synthesis of pyrimidine derivatives in plant material using
J6-14 Cjorotic acid. Acta biochim. Pol. 9 no.1:63-70 '62.

1. Institute of Biochemistry and Biophysics, Polish Academy of
Sciences, Warszawa.

(PLANTS chem) (PYRIMIDINES chem)

BUCHOWICZ, J.; WASILEWSKA, Lidia D.; WITECKI, J.; REIFER, I.

The anabolic pathway of uracil in higher plants. Acta biochim. pol.
10 no.1:67 '63.

1. Institute of Biochemistry and Biophysics, Polish Academy of Sciences,
and Central College of Agriculture, Warszawa.
(NO SUBJECT HEADINGS)

BUCHOWICZ, J.; REIFER, I.; GERIC, I.

[¹⁴C] carbamoyl- β -alanine as precursor of pyrimidines in higher plants. Acta biochim. pol. 10 no.2:157-162 '63.

1. Institute of Biochemistry and Biophysics, Polish Academy of Sciences, Warszawa.

(PYRIMIDINES)

(AMINO ACIDS)

(PLANTS)

(PROTEIN METABOLISM)

BUCHOWICZ, J.

Incorporation of [2-¹⁴C] uracil into polynucleotides in
homogenates of wheat seedlings. Acta biochim. polon. 10 no.3:
301-307 '63.

1. Institute of Biochemistry and Biophysics, Polish Academy
of Sciences, Warszawa.
(URACIL) (CARBON ISOTOPES) (POLYNUCLEOTIDES)
(WHEAT)

BUCHOWICZ, Jerzy

The cycle of the reproduction of nucleic acids and proteins
in the living cell. Postepy biochem. 10 no.1:119-131 '64.

BUCHOWSKA, IRENA

KOZLOWSKA, Natalia; BUCHOWSKA, Irena

Report on tissue therapy. Neurologia etc. polska 4 no.4:413-417
July-Aug 54.

1. Panstwowy Szpital Psychiatryczny w Rybniku. Dyrektor: dr.
J.Szczeniowski.

(MENTAL DISORDERS, therapy,
tissue ther.)

(TISSUE THERAPY, in various diseases,
tissue ther.)

EUCHOWSKI, HENRYK

Polarographic analysis of mixtures of nitrochlorobenzenes with application of the countercurrent distribution method. Wiktor Kemula and Henryk Buchowski (Univ. Warsaw). *Kocinski. Chem.* 28, 303-31 (1963) (English summary). Mixts. of 2,4-dinitrochlorobenzene (I), and *o*- and *p*-nitrochlorobenzenes (II, III) can be analyzed polarographically for I only above 15%, and for II and III only jointly. A partial sepn. of the mixt. by a countercurrent distribution method with subsequent polarographic analysis can yield results with 1% error for any amt. of I, II, and III. The best solvent system for such extn. is an aq. soln. of MeOH and heptane or isooctane. The ratio of distribution coeff., k_1/k_2 , is 2.5 for I and II, 6.0 for I and III, and 2.0 for II and III. M. Falk

①

BUCHOWSKI, H.

Kemula, W. Partition equilibriums in dilute solutions. I. Relation between phase composition and partition coefficients. p. 718.

ROCZNIKI CHEM, Warszawa, Vol. 29. no. 2/3, 1955.

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, no. 10, Oct. 1955, Uncl.

COUNTRY : Poland E-1
CATEGORY :
ABS. JOUR. : RZKhim., No. 1959, No. 85987
AUTHOR : Buchowski, H.
INST. :
TITLE : Fundamentals of Extraction Analysis

ORIG. PUB. : Chem. analit., 1958, 3, No 3-4, 627-634

ABSTRACT : Description of a method of extraction analysis (EA) which consists in determining the composition of the analytic sample (AS), comprising 2 components, from its behavior on a single-step extraction. AS is dissolved in a definite volume of suitable solvent and is extracted with a definite volume of another, immiscible, solvent. Then, by any suitable method, a determination is made of the total amount of both components of AS which have passed into the extract, or which remain in the initial solution. By a comparison of the value thus determined with data secured under the same conditions for the pure components of AS, the composition of AS is ascertained. A graphic procedure

CARD: 1/3

COUNTRY : Poland E-1
CATEGORY :
ABS. JOUR. : RZKhim., No. 1959, No. 85987
AUTHOR :
INST. :
TITLE :
ORIG. PUB. :

ABSTRACT : is proposed for computing the composition of AS. It is shown that accuracy of EA increases with increasing difference between distribution coefficients of both components in the two selected solvents. One of the conditions of applicability of EA is independence of distribution coefficient from concentration of components of AS which are to be determined. Also, the compounds which are being determined must not dissociate in aqueous phase or associate in organic phase. To suppress dissociation it is recommended to use suitable buffer substances at concentration considerably exceeding that of compounds to be determined. To eliminate association of compounds

CARD: 2/3

7d

COUNTRY : Poland E-1
CATEGORY :
ABS. JOUR. : RZKhim., No. 1959, No. 85987

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : being determined, in organic solvents, those solvents should be used which are characterized by higher values of dielectric constant. -- A. Nemodruk.

CARD: 3/3

COUNTRY : Poland E-3
 CATEGORY :
 ABS. JOUR. : RZKhim., No. 1959, No. 86285
 AUTHOR : Buchowski, H.; Olempska, Z.
 INST. :
 TITLE : Extraction Analysis of Nitrobenzoic Acids.

ORIG. PUB. : Chem. analit., 1958, 3, No 3-4, 635-640

ABSTRACT : A study of the correlation between distribution coefficient of o- and p-nitrobenzoic acid in water-organic solvents systems, and the pH values. It was found that these acids can be determined in a mixture by carrying out the polarography of aqueous solutions of their mixtures before and after extraction with a mixture of toluene (I) and ether (II). To 2 ml of $1 \cdot 10^{-3}$ - $2 \cdot 10^{-3}$ M solution of acids in 0.3 M acetate buffer solution (pH 4.2) is added 0.1 ml 0.005% solution of thymol, H_2 is passed in, and the mixture is subjected to polarography at $20 \pm 0.5^\circ$, and at E from 0 to -1.4 v. Then, 5 ml of the same solution of acids are shaken with 5 ml of a mixture of I and II (1:3)

CARD: 1/2

121

COUNTRY : Poland
CATEGORY :

E-3

ABSTRACT JOURN : RZKhim., No. 1959, No. 86285

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : and the aqueous phase is subjected to polarography as described above. The pH value of 4.2 is optimal for distribution of isomeric nitrobenzoic acids in the solvents used. The results are calculated by using a calibration graph. Average error of the method $\pm 3\%$.
N. Turkevich.

CARD: 2/2

BUCHOWSKI, H.

Fundamentals of extraction analysis. p. 627.

CHEMIA ANALITYCZNA. (Komisja Analityczna Polskiej Akademii Nauk i Naczelna Organizacja Techniczna) Warszawa, Poland, Vol. 8, no. 3/4 1958

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 7,
July 1959

Uncl.

BUCHOWSKI, H.

Prediction of partition coefficients based on the properties of pure substances. p. 1215.

ROZNIKI CHEMII. (Polska Akademia Nauk) Warszawa, ^{Pop-Ald} Vol. 32, no. 5, 1958

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 7, July 1959

UNCL.

COUNTRY	:	Poland	E-3
CATEGORY	:		
AES, JOUR.	:	RZKhim., No. 5 1960, No.	17602
AUTHOR	:	Buchowski, H. and Pawlowski, W.	
INST.	:	Not given	
TITLE	:	The Chromatopolarographic Analysis of Mixtures of Nitroanilines. I. The Selection of Solvent Systems. II. Quantitative Determinations.	
ORIG. PUB.	:	Chem Analit (Poland), 4, No 1-2, 135-143, 145-149 (1959)	
ABSTRACT	:	I. The authors have investigated the possibility of the chromatographic separation of m- and p-nitroanilines (I) on powdered rubber (II) with the use of various solvents. A comparison of the values of the ionization constants and the distribution constants led to the selection of 3% H ₂ SO ₄ (III) as the optimum solvent. The sample to be analyzed is dissolved in 0.25 ml III and passed through a column packed with II which has been soaked in organic solvents acting as the	

CARD: 1/5

139

COUNTRY:	: Poland	E-3
CATEGORY	:	
ABS. JOUR.	: RZhKhim., No. 5 1960, No.	17602
AUTHOR	:	
INST.	:	
TITLE	:	
ORIG. PUB.	:	
ABSTRACT	: fixed phase. I is determined in the eluate polarographically by the method of Kemul (RZhKhim, 1955, 18, 40328). When the solvent systemstoluene-III, chloroform (IV)-III, IV-acetone (V)-0.1 N KCl, IV-0.1 N KCl are used, a quantitative separation of the mixture is not achieved. Quantitative separation of the isomers is achieved in a 4-cm high column when the system IV-V-III (1.00 : 0.42 : 1.21) is used.	
CARD:	2/5	

COUNTRY	:	Poland	E-3
CATEGORY	:		
ABS. JOUR.	:	RZKhim., No. 5 1960, No.	17602
AUTHOR	:		
INST.	:		
TITLE	:		
ORIG. PUB.	:		
ABSTRACT	:	II. A method is described for the quantitative determination of isomers of I in mixtures. 1,000 gms. of III are mixed with 166.5 gms V and 88.3 gms IV, with the formation of two phases. The lower phase is used as the eluent, and the upper phase (UP) is used as the fixed phase. The sample to be analyzed is introduced into a column of 4.8 mm diam and 3 cm height, packed with 85 mg of powdered II which has been treated with UP (3 ml UP per 1 gm II). m-I is eluted first, followed by	
CARD:	3/5	140	

CONTRIBUTOR	: Poland	E-5
CATEGORY	:	
ABS. JOUR.	: RZhKhim., No. 5 1960, No.	17602
AUTHOR	:	
INST.	:	
TITLE	:	
ORIG. PUB.	:	
ABSTRACT	: p-I, and finally o-I; the individual isomers are determined quantitatively in the appropriate eluate fractions by the Kemul polarographic method (RZhKhim, 1955, No 18, 40328). When an elution rate of 10 ml/hr is used, about 20 ml of eluate is collected for the determination of o-I. The accelerated method uses a column of 4 cm height packed with 100 mg II which has been treated with UP. m-I is determined after 2-3 min with an eluate volume of 0.5 ml, and p-I is determined when 7-8 ml	
CARD:	4/5	

COUNTRY	:	Poland	E-3
CATEGORY	:		
ANS. JOUR.	:	RZKhim., No. 5 1960, No.	17602
AUTHOR	:		
INST.	:		
TITLE	:		
ORIG. PUB.	:		
ABSTRACT	:	of eluate have been collected. The content of o-I is calculated by difference. The time required for the analysis is less than 1 hr, the error being under 1%. The calibration curves are constructed for concentrations of up to 400 mg I/liter. N. Turkevich	
CARD: 5/5		141	

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Chromatopolarographic analysis of nitroaniline mixtures.
 II. Quantitative determinations. Henryk Buchowski and
 Wiktor Pawlowski, *Chem. Anal. (Warsaw)* 4, 145-0
 (1959) (English summary); cf. *C.A.* 53, 13891c. A mixt. of
 3% aq. H_2SO_4 , 1000, acetone 168.5, and $CHCl_3$ 83.3 g.
 seps. into two layers. The aq. layer was used as eluate and
 the $CHCl_3$ layer for swelling of rubber. Good results were
 obtained on a glass column 4 cm. long and 0.48 cm. in diam.
 packed with 100 mg. of rubber, swollen by $CHCl_3$ layer
 used in aunts. of 3 ml./g. of rubber. Currents in the
 effluent were recorded by means of a device described by
 Kemula (*C.A.* 47, 7344d; *Przemysl Chem.* 33, 453(1954)).
 The rate of out-flow was 10 ml./hr. Time of analysis can
 be cut when meta and para isomers only are detd. in first 7-8
 ml. and the content of o-nitroaniline is calcd. from the difference
 between total amt. and the sum of meta and para
 isomers. Time of analysis is below 1 hr. and mean error
 less than 1%. Polarograms are reproduced. Z. Kurtyka

2 May
 4/22/60
 3

BUCHOWSKI, H. ; PAWLOWSKI, W.

Chromatopolarographic analysis of nitroaniline mixtures. I. Choice of the system of solvents. II. Quantitative determination. p. 135.

CHIMIA ANALITYCZNA. Warszawa, Poland, No. 8, August 1959.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 11
November 1959.

Uncl.

✓ The effect of acidity and concentration of buffers on partition coefficients of dilute solutions of acids and bases and on selectivity of a liquid-liquid system. Wiktor Kempala and Henryk Buchowski (Univ. Warsaw). *J. Phys. Chem.* 63, 100-9 (1959). — The partition coeffs. of 8 basic and acidic nitro compds. between org. solvents and buffer solns. of various acidities were measured. The observed changes in partition coeffs. were related to the acidity functions H_0 or H_1 of the polar phase. A method was described for the detn. of the ionization consts. and partition coeffs. of un-ionized mols. from the partition data. The effect of concd. acids on partition coeffs. and the relation between acidity and selectivity are discussed. Henry Leidheiser, Jr.

163

11.1

0.0

Zakład Chemii Nieorganicznej Uniwersytetu Warszawa i Zakład Fizykochemicznych
Metod Analitycznych Instytutu Chemii Fizycznej Polskiej Akademii Nauk, Warszawa

1
✓ Liquid-liquid equilibria in the methanol-water-isooctane
system. Henryk Buchowski and Jędrzej Tęperek (Univ.
Warsaw). *Roczniki Chem.* 33, 1093-8 (1959) (English sum-
mary).—The binodal curve and 9 tie-lines of the MeOH-
water-isooctane (1) system at 18 and 20° were detd. The
asymmetry of the reciprocal soly. of MeOH in I and of I in
MeOH, characteristic of all MeOH-hydrocarbon systems,
was observed. The tie-lines were correlated by several
methods. Only the Campbell method (*C.A.* 39, 664¹) gives
a straight line. A. Kreglewski

4

BUCHOWSKI, H.; BELLEMANS, A.

Excess free energy and related thermodynamic properties of a dense mixture of hard spheres. Bul chim PAN 9 no.1:17-25 '61.
(EEAI 10:9/10)

1. Department of Physicochemical Methods of Analysis, Institute of Physical Chemistry, Polish Academy of Sciences. Presented by W. Kemula, Free University of Brussels.

(Mixtures)

BUCHOWSKI, H.; BELLEMANS, A.

A note on the calculation of the triplet correlation function for
hard spheres in contact. Bul chim PAN 9 no.1:27-28 '61.
(EPAI 10:9/10)

1. Department of Physicochemical Methods of Analysis. Institute of
Physical Chemistry, Polish Academy of Sciences. Free University of
Brussels. Presented by W. Kemula.

(Functions)

KEMULA, W.; BUCHOWSKI, H.; TEREPEK, J.

Partition coefficients in mixed solvents I. Ideal mixture of solvents.
II. Non-ideal mixtures of solvents: chloroform carbon tetrachloride and
chloroform n-hexane. Bul chim PAN 9 no.9:595-604 '61.

1. Department of Inorganic Chemistry, University, Warsaw and Department of Physicochemical Methods of Analysis, Institute of Physical Chemistry, Polish Academy of Sciences. Presented by W. Kemula.

S/081/63/000/003/002/036
B144/B186

AUTHORS: Kemula, W., Buchowski, H., Terepek, J.

TITLE: Distribution ratios in mixed solvents. I. Ideal mixture of solvents. II. Non-ideal mixtures of solvents: chloroform + carbon tetrachloride and chloroform + n-hexane

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 3, 1963, 60-61, abstract 3B408 (Bull. Acad. polon. sci. Ser. sci. chim., v. 9, no. 9, 1961, 595-599; 601-604 [Eng.; summary in Russ.])

TEXT: I. The distribution is studied of 1-nitro-propane (I), o-nitro-aniline (II) and o-nitro-phenol (III) (in highly dilute solutions) between water and a mixture of isooctane (IV) + hexadecane (V) at $20 \pm 1^\circ\text{C}$. It was established that for an ideal organic mixture of IV + V the following relation is true: $\log K_{x_0} = x_1 \log K_{x_1} + x_2 \log K_{x_2}$, where K_{x_0} , K_{x_1} and K_{x_2} in conformity with the distribution ratio of the substance distributed between the solvent mixture and the pure solvents are expressed as a ratio
Card 1/3

Distribution ratios in mixed ...

S/081/63/000/003/002/036
B144/B186

of the molar fraction of the substance distributed in the organic and aqueous phases, and x_1 and x_2 are the molar fractions of IV and V in the mixture. The equation is confirmed by the example of extraction of I. If the form and the dimensions of the molecules of the substance distributed differ markedly from the form and dimensions of the molecules of the solvents (e. g. in the case of II and III), the experimental data satisfy the equation: $\log K_{x_0} = \gamma_1 \log K_{x_1} + \gamma_2 \log K_{x_2}$, where γ_1 and γ_2 are the volumetric fractions of the solvents in the mixture. Based on the examples studied it is shown that $\log K_c/K_0 = c(\text{org.})/c(\text{aqueous})$; (c = concentration of the substance distributed in moles/g) proves not to be a linear function of x_1 . It is noted that in the ideal mixture of solvents $\log K_c$ can be a linear function of x_1 only in the case of the molar volumes of the solvents being equal. II. The distribution of p-nitro-phenol (VI) (concentration 10^{-3} mole/l) between water and a non-ideal mixture of the solvents chloroform (VII) + CCl_4 showing positive deviations from Raoult's law follows the equation

Card 2/3

Distribution ratios in mixed ...

S/081/63/000/003/002/036
B144/B186

$\log K_{x_0} = x_1 \log K_{x_1} + x_2 \log K_{x_2} + g^E 4.575T$ (1), where g^E is the excess free energy of mixing. For the non-ideal mixture of VII + n hexane (VIII), the values K_{x_0} , calculated from eq. (1) for the region rich in VIII, are somewhat lower than the experimental values. The differences between the experimental and calculated values K_{x_0} are explained on the basis of the change of the solvation of VI by solvent molecules when the composition of the organic solution changes. This suggestion is confirmed by the example of iodine distribution in the system $H_2O - CCl_4 - C_6H_6$.

[Abstracter's note: Complete translation.]

Card 3/3

KEMULA, W. (Varsovie); BUCHOWSKI, H. (Varsovie); TEPEREK, J.
(Varsovie)

Evaluation of excess free energy starting with division
coefficients. Rev chimie 7 no. 1: 285-290 '62.

1. Institut de Chimie Physique de l'Academie Polonaise
des Sciences, Varsovie.

KEMULA, W.; BUCHOWSKI, H.; LEWANDOWSKI, R.

~~XXXXXXXXXXXXXXXXXXXX~~
Distribution studies. Pt. 1. Bul chim PAN 12 no.4:267-272 '64.

1. Department of Inorganic Chemistry, University, Warsaw. .
Presented by W. Kemula.

KEMULA, W.; BUCHOWSKI, H.; TEPERER, J.

Distribution studies. Pts. 2-3. Bul chim PAN 12 no.5:343-349 '64.

1. Department of Inorganic Chemistry, University, Warsaw.
Presented by W. Kemula.

KEMULA, W.; BUCHOWSKI, H.; FAWLOWSKI, W.

Distribution studies. Pt.4. Bul chim PAN 12 no.7:491-492 '64.

1. Department of Inorganic Chemistry of Warsaw University.
Submitted May 8, 1964.

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Distr: 4E3d

Testing of the efficiency of extreme-pressure additives.
Jaroslav Buchta. (Rafinerie mineralních olejů, Pardubice,
Czechy). Chem. průmysl 9, 297-9(1959); cf. Davey, J.
Inst. Petrol. 43, 105A(1956).—A series of org. compds. was
tested to find substitutes for sulfurized sperm whale oil.
Zinc dibutyldithiocarbamate, dibenzyl sulfide, dibenzyl di-
sulfide, $(C_6H_5)_2OC(:S)SS_2$ (I), ethylene bis(amyloxanthate),
chlorinated naphthalene with 18% Cl, chlorinated paraffins
with 40% Cl (II), chlorinated isoparaffins with 30% Cl
were found to be suitable substitutes. The 2nd group of
substitutes included Paraffin, waste fatty acids, stearin
pitch, rape seed oil (III), distd. olein, fatty acids of sperm
oil, and oxidized petrolatum; all these were sulfurized with
10% powd. S for 30 min. at 160-80° or were chlorinated at
100-10°. An oil with a viscosity of 5.8° Engler at 50° and
with such an amt. of additive to give 1.5% S, or, for Cl-S
combinations, of 0.4-0.6% S and 2.4-3% Cl, was tested
on a 4-ball machine. I performed best, esp. in combination
with II; the combination of III and II was satisfactory, also.
P. Cefeln

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"Economical utilization of electric energy on building sites."

p. 151 (Mechanisace, Vol. 5, No. 4, April 1958, Praha, Czechoslovakia)

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p. 311.

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